Result of Micrometer-comparisons of Uranus and α Librœ, 1894 October 5. By John Tebbutt.

In consequence of cloudy weather, no other observations than those now sent could be secured near the conjunction of the planet and star. The 8-inch equatorial refractor with its excellent filar micrometer and lowest power, 74, was employed, one revolution of the adopted screw being 17″·869. Twenty comparisons were obtained in the evening twilight on the single transit thread of the micrometer, with the corresponding number of bisections of the star and planet for declination. As the limbs of the planet, though steady, were not well defined, the centre of the disc was observed for both right ascension and declination. The following are the results, the apparent place of the star being taken from page 353 of the *Nautical Almanac*, and that of the planet being interpolated with third differences from page 267 of the same work. The corrections for refraction are insensible.

	R.A. h m s	Declin. ° ′ ″
Apparent place of Star	14 45 1·97	−15 36 16·8
Observed difference of Planet and Star ...	+6·28	−13·4
Correction for Parallax	+0·02	− 0·2
Concluded Geoc. App. place of Planet's Centre	14 45 8·27	−15 36 30·4
Geoc. App. place from *Nautical Almanac* ...	14 45 8·59	−15 36 31·6
Correction for *Nautical Almanac*	−0·32	+1·2

The Windsor mean time corresponding to the concluded position is October $5^d\ 6^h\ 22^m\ 13^s$.

Windsor, N.S. Wales:
1894 *October* 13.

Observation of a Daylight Occultation of Antares, 1894 October 31. By John Tebbutt.

The circumstances of this rare phenomenon were kindly calculated for my observatory by Mr. R. T. A. Innes, of Sydney, and Mr. Joseph Brooks, the officer in charge of the trigonometrical survey of the colony. The evening turned out beautifully clear, and excellent observations were obtained of the phenomenon by means of the Cooke filar micrometer and a power of 138 on the Grubb 8-inch equatorial. The telescope was first turned on the star about an hour before the calculated time of disappearance at the Moon's dark limb, but the image was badly defined and flaring. The steadiness and definition, however, wonderfully improved as the afternoon advanced, and at the time of the first

phase were satisfactory. Shortly before the disappearance the star was brought midway between the position threads of the micrometer, which were, of course, set parallel to the equator. The star was observed to disappear instantaneously between the threads at $20^h\ 12^m\ 23^s{\cdot}0$ per sidereal chronometer corrected, the corresponding local mean time being $5^h\ 34^m\ 1^s{\cdot}4$. As the Sun's upper limb was observed to disappear on the visible horizon at $6^h\ 20^m\ 29^s$ it follows that the first phase was observed $46\frac{1}{2}$ minutes before direct sunlight ceased. The telescope was kept clamped in declination in order that the position threads of the micrometer might serve to point out approximately the place where the star would reappear on the bright limb. By allowing a little for the change of refraction in the interval, I fortunately had my eye directed to the exact place of reappearance. The irradiation of the crescent limb was much reduced by the strong twilight, and the star was caught at $21^h\ 21^m\ 13^s{\cdot}8$ (per sidereal chronometer corrected) as a small round white disc, which gradually became brighter as its distance from the limb increased, and in a minute or so shone out with its usual ruddy glare. Nothing was seen of the well-known companion. Considering the strong twilight and the high power employed, it was hardly possible to distinguish it. The deduced mean time of reappearance is $6^h\ 42^m\ 40^s{\cdot}9$. As both phases were well observed, and the occultation was nearly central, the observations will afford an accurate place of the Moon when the longitude of the observatory is definitively settled. On reviewing an experience of thirty years of occultation work, I find that I had previously observed four occultations of *Antares* and one of *Spica* on a dark sky, but that I had never before observed an occultation of a fixed star in full sunlight. I conclude, therefore, that the observation just recorded is a rare one. I may add that according to Mr. Brooks's calculation *Spica* will be occulted soon after noon on the 24th instant, and *Antares* will again be occulted shortly after sunrise on December 25, civil time. I may also add that I will do my best to observe these important phenomena.

Private Observatory, The Peninsula, Windsor, N.S. Wales:
1894 *November* 3.